ADVANCED ENERGY MATERIALS

Supporting Information

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Porous Nanomaterials for Ultrabroadband Omnidirectional Anti-Reflection Surfaces with Applications in High Concentration Photovoltaics

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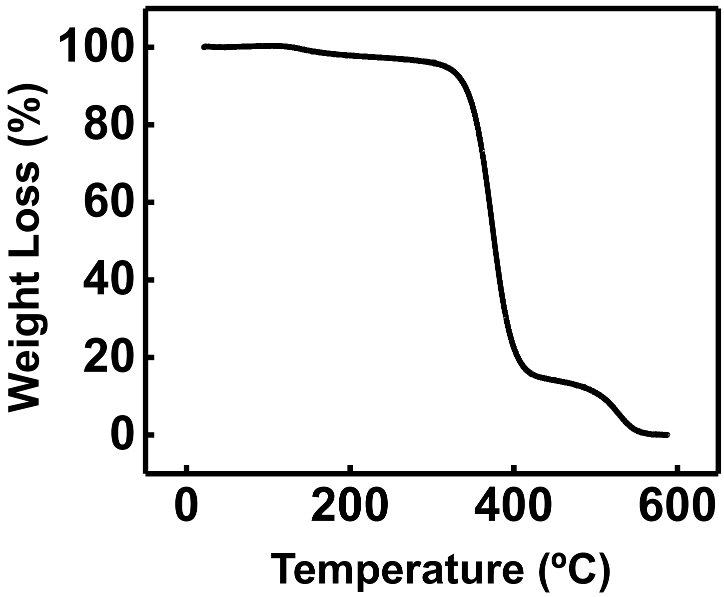


Figure S1. Thermogravimetric analysis data of PMMSQ/PS-*b*-P2VP mixture (65% PS-*b*-P2VP loading) measured by Q50-TGA at a temperature ramp rate of 5 ºC per minute.

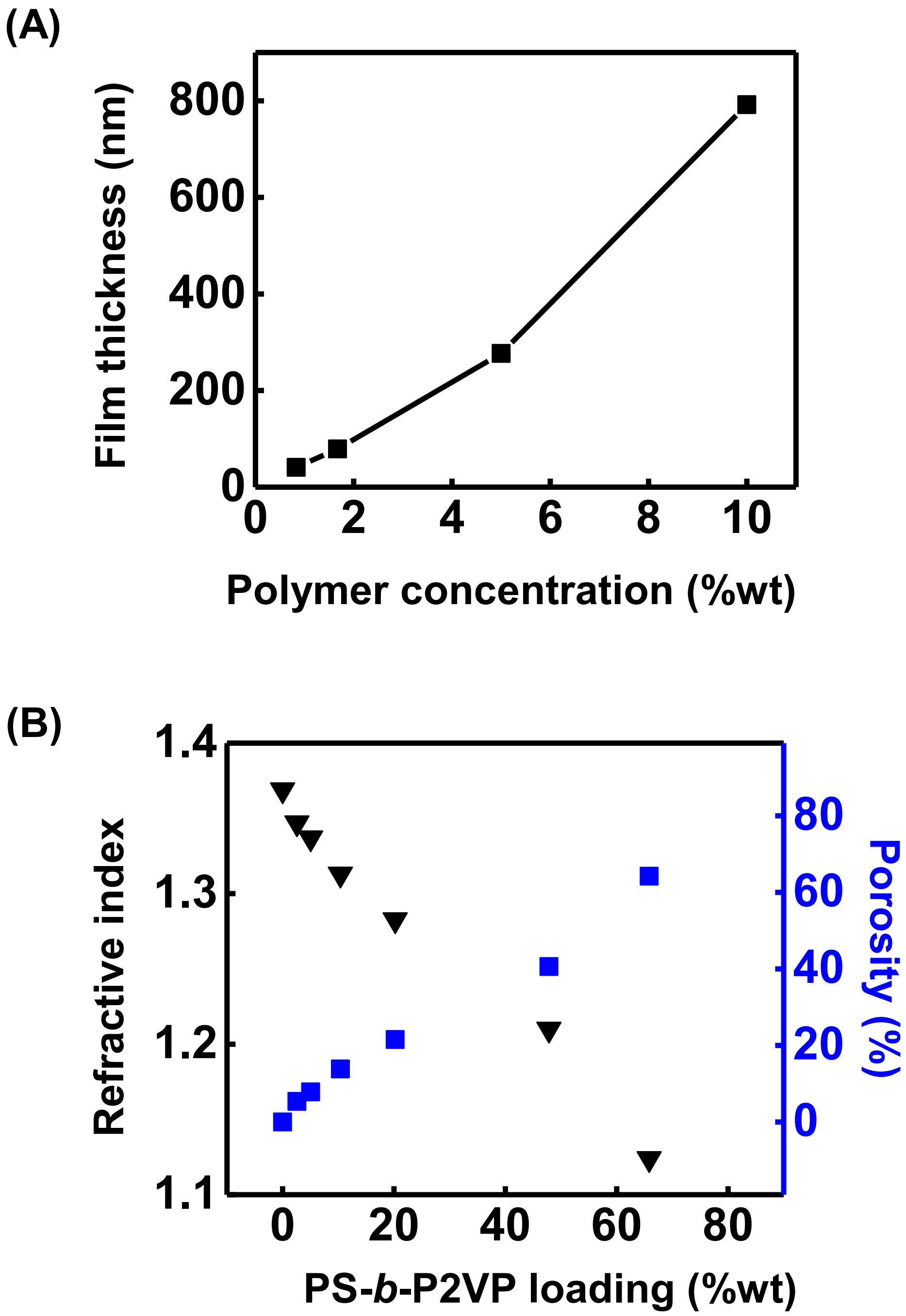
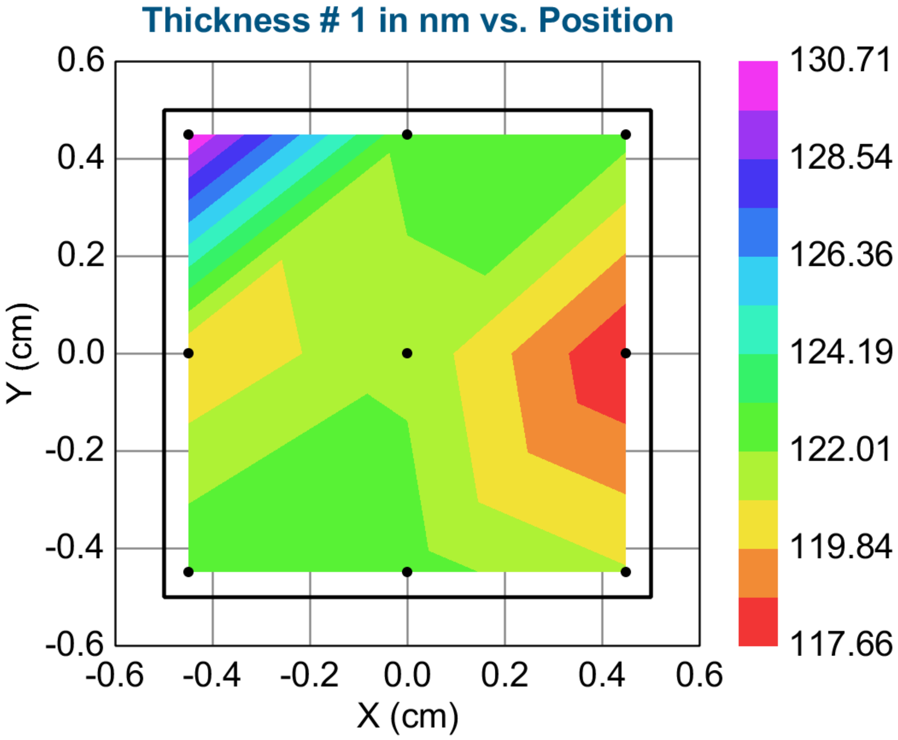


Figure S2. (A) Film thickness as a function of polymer mixture solution concentration (48% P2VP loading, with a spin-speed of 2000 rpm); (B) Refractive index (black triangles) and porosity (blue squares, calculated with Equation (1)) as a function of PS-*b*-P2VP loading.

(A)



(B)

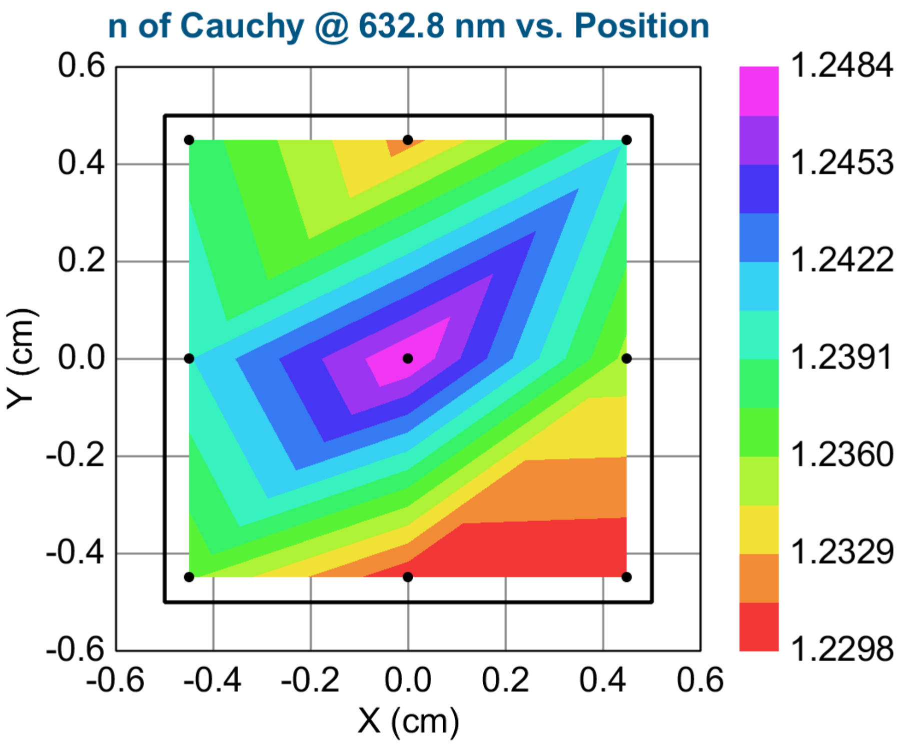


Figure S3. (A) Film thickness and (B) refractive index distribution on a single layer film coated on a glass substrate as mapped by a Focused RC2 spectroscopic ellipsometer.

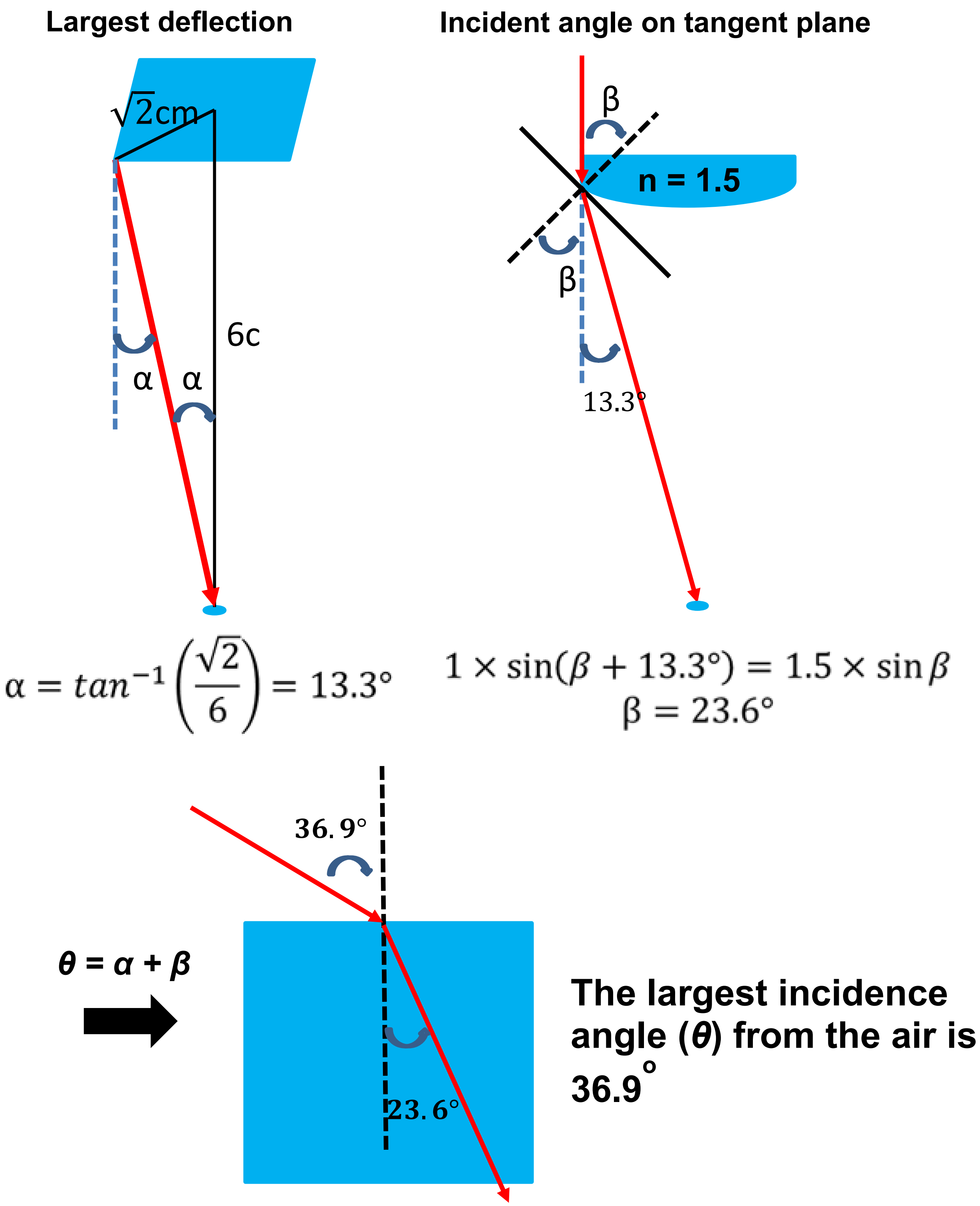


Figure S4. Calculations for the largest angle of incidence to consider for the lens unit in the commercial Semprius CPV module employing 3J cells.

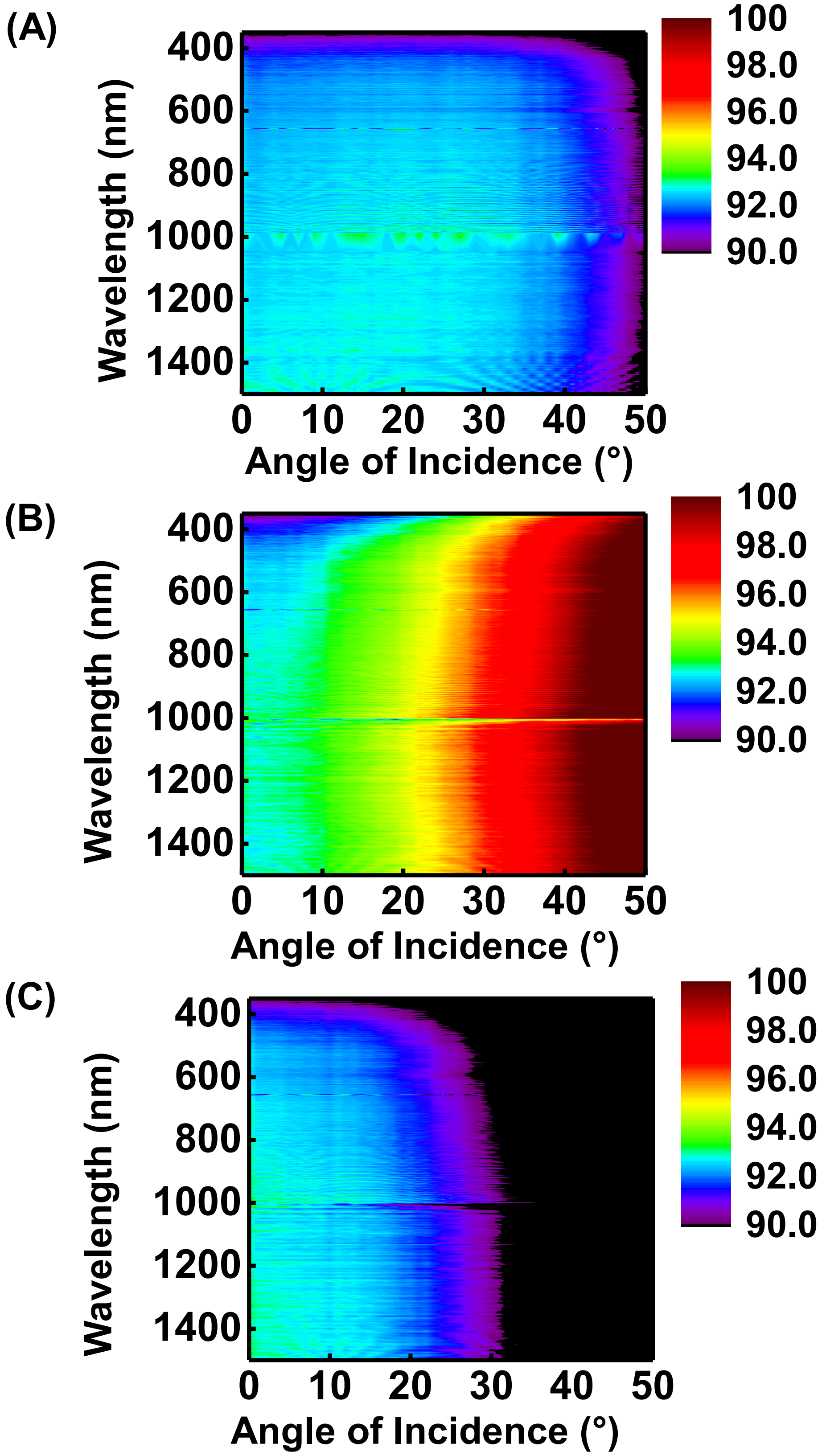


Figure S5. Measured angle-resolved transmission spectra for (A) unpolarized, (B) p- and (C) s-polarized light through a glass substrate (170 μm thick coverslip).

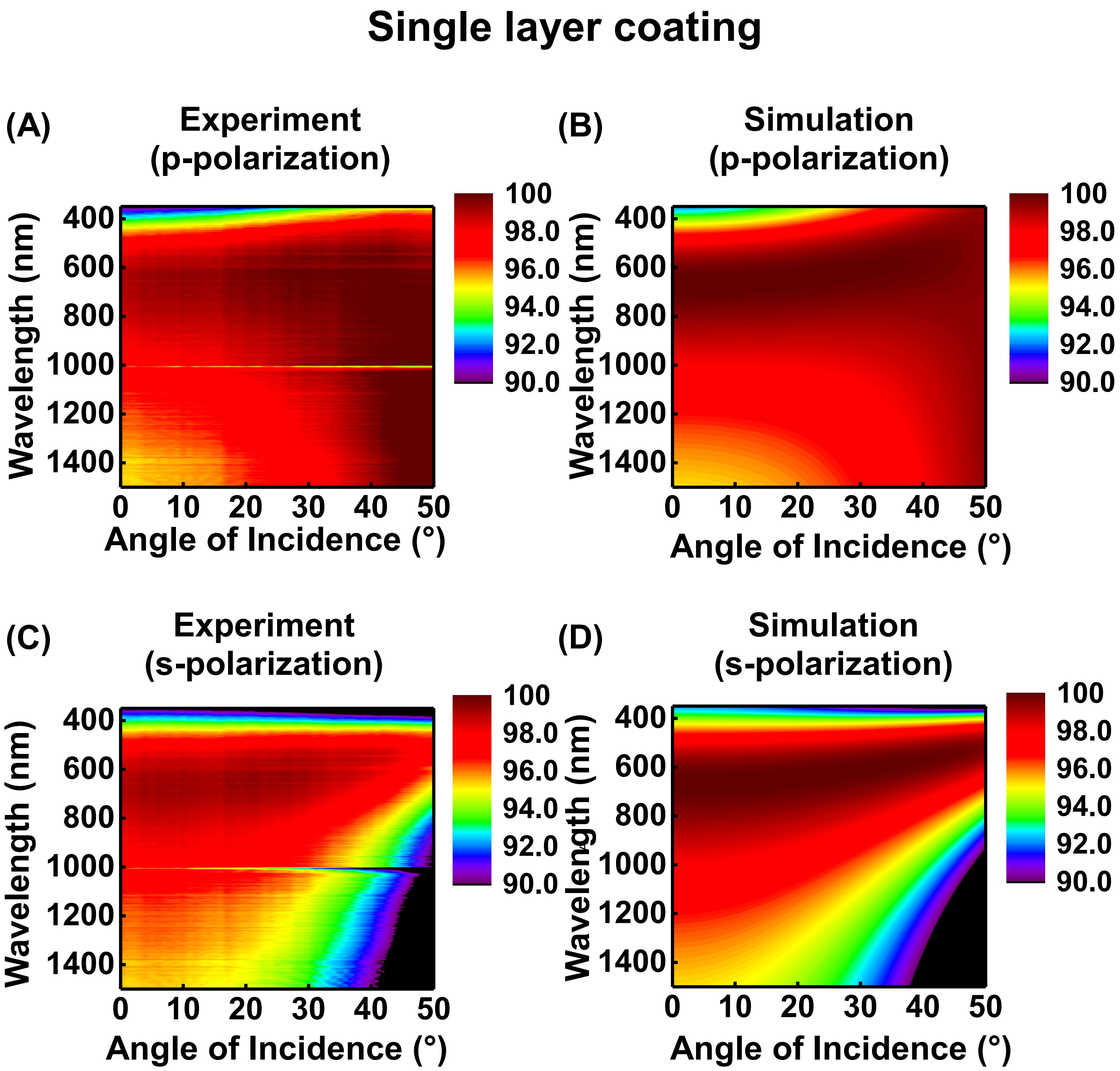


Figure S6. Measured and simulated angle-resolved transmission spectra of a glass substrate coated with a dual-side single-layer AR coating for (A, B) p- and (C, D) s-polarization.

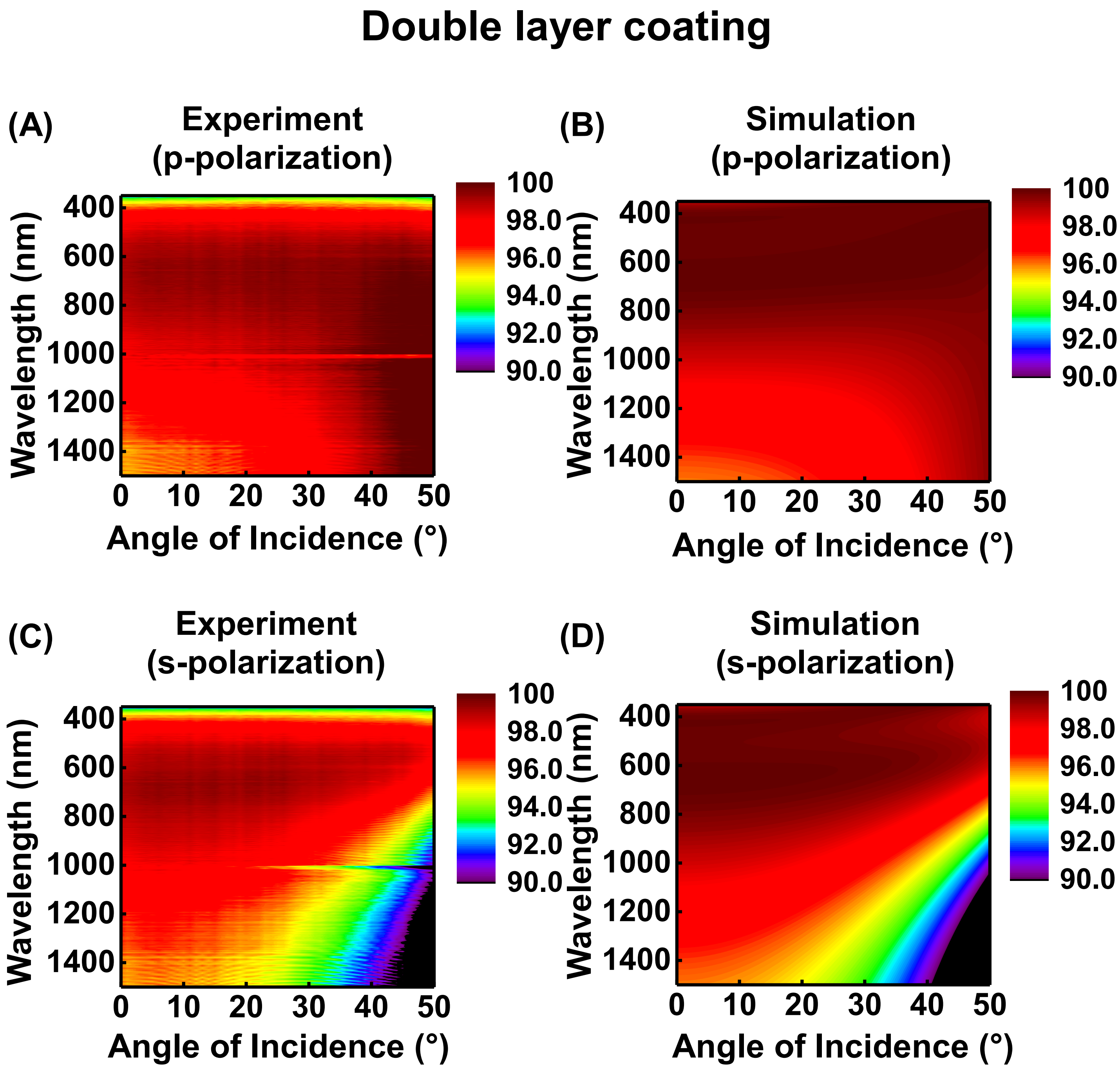


Figure S7. Measured and simulated angle-resolved transmission spectra of a glass substrate coated with a dual-side double-layer AR coating for (A, B) p- and (C, D) s-polarization.

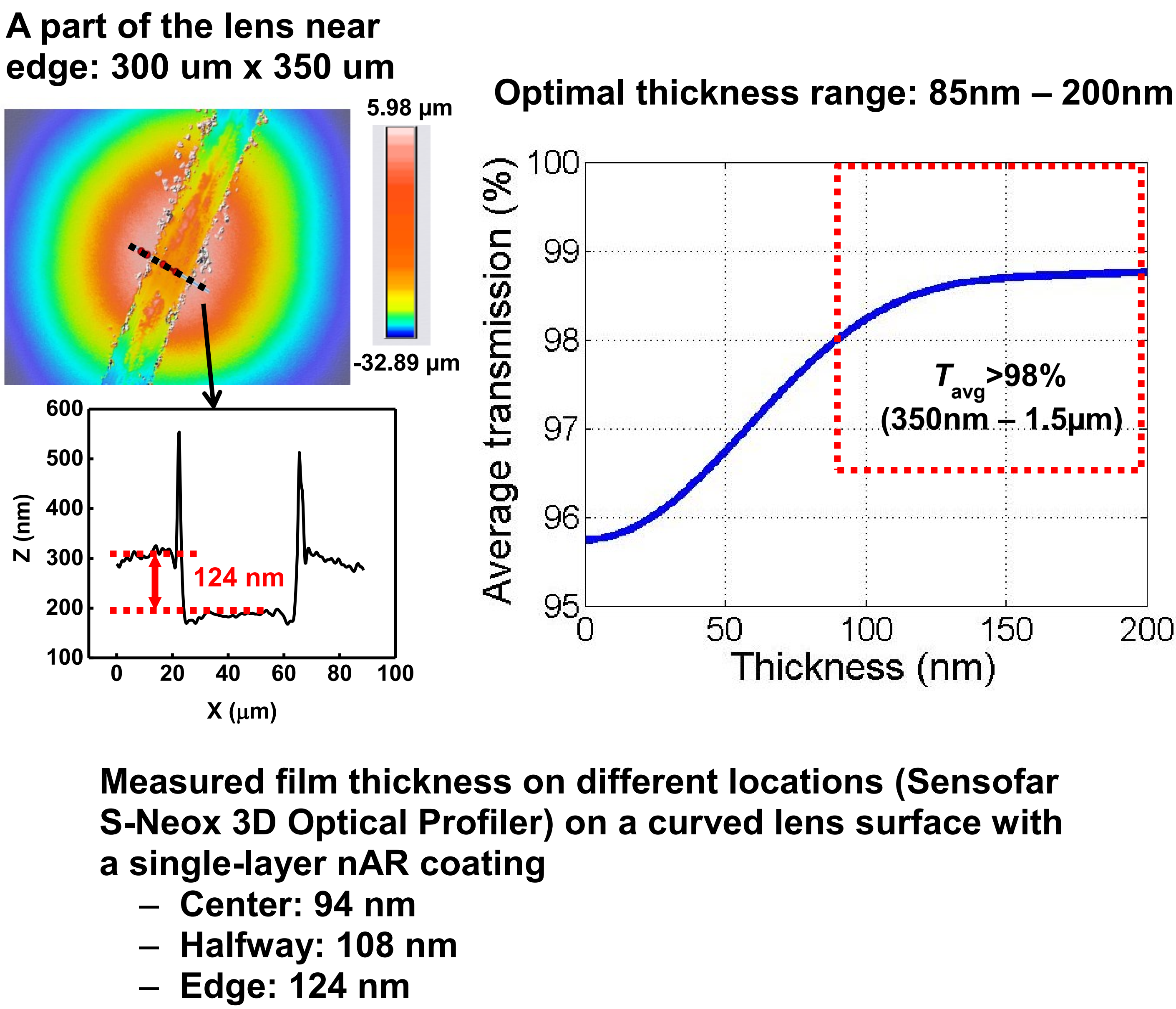


Figure S8. Single-layer nAR film thickness at three locations coated on a curved lens surface, with a variation within the optimal thickness range.